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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/403,744	01/03/2000	JEAN-LUC HOFFMAN	99215	7634

7590 12/19/2001

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SUITE 612  
ARLINGTON, VA 22202-3417

EXAMINER

COMBS, JANELL A

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 12/19/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-11

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/403,744		HOFFMAN ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Janelle Combs-Morillo		1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 October 1999.
- 2a) ☐ This action is **FINAL**.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 5-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
  - 1. ☐ Certified copies of the priority documents have been received.
  - 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “arc of contact” must be shown on the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 2 lines 2-3 recite “at least one of elements Fe (from 0.15 to 1.5%) or Mn (from 0.35 to 1.9%)” which is an improper markush group. Also, the phrase “with : Fe + Mn < 2.5%” renders the claims indefinite. In order to clarify, the examiner suggests changing claim 1 lines 2-4 and claim 2 lines 2-4 to “one or more elements selected from the group consisting of: 0.15 to 1.5% Fe and 0.35 to 1.9% Mn, wherein Fe + Mn < 2.5%,”.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim

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does not clearly set forth the metes and bounds of the patent protection desired. In the present instance, claim 4 recites the broad recitation "less than 60 mm", and the claim also recites "preferably less than 56 mm" which is the narrower statement of the range/limitation.

Claims dependent on the above rejected claims are likewise rejected under this statute.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papich et al (US 5,669,436).

Papich teaches a method of twin roll casting (Fig. 11d) an aluminum alloy comprising (in weight%): 0.5-2.2% Mn, 0.1-0.7% Fe, 0.05-0.6% Si, and 0.05-0.5% Cu (column 6 lines 48-51), to a thickness of 0.150-0.300 inches (column 9 line 20, which is equivalent to 3.8-7.6 mm). The force applied to the rolls during casting taught by Papich at Fig. 11d overlaps the presently claimed ranges. For example, the presently claimed condition of *Force (ton/meter of strip width) = 300 + 2000/(thickness of cast strip, in mm)* falls within the upper and lower limits of operating pressure given in Fig. 11d of Papich for cast strips 3.8-7.6 mm thick (as taught by Papich, column 9 line 20).

Papich does not specify using "cooled shrinked cylinders" (claim 1) or the temperature of the cylinder shells during casting (claims 2 and 3) as presently claimed. However, it is well known in

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the art of continuous twin roll casting to use tubular shell clad rolls substantially as presently claimed, and therefore held to be within the disclosure of Papich et al. The examiner asserts that during casting, the cylinder shells will reach a temperature  $\gg 80^{\circ}\text{C}$  because of contact with molten or semi-molten aluminum alloy. Alternatively, the examiner asserts that it is well settled that where the prior art clearly teaches the process sought to be patented, a difference in the structure of the apparatus used to carry out the process (i.e. "cooled shrinked cylinders" or the conductivity of the cylinder shells), or any of its steps, cannot be considered as a patentable limitation therein (*In re Sweeney et al.* 72 USPQ 50).

Concerning dependent claim 4, Papich does not specify that the arc of contact between the metal and the casting rolls is less than 60 mm, or less than 56 mm. However, the examiner points out that it is within the disclosure of Papich to adjust the setback (distance of the ceramic caster tip from the point of closest approach of the rolls in the roll bite), because Papich teaches that increasing the setback increases the hot working (column 10 lines 41-46). Therefore, the examiner asserts that it is within the disclosure of Papich to obtain an arc of contact of  $<60$  mm or  $<56$  mm.

Because Papich teaches a method of twin roll casting Al-Mn-Fe alloys, wherein said alloy composition and method steps substantially overlap the presently claimed alloy and method steps, it is held that Papich et al has created a prima facie case of obviousness of the presently claimed invention.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papich in view of Jin (US 5,588,478).

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As stated above, Papich does not specify the arc of contact. Jin teaches a method for twin roll casting (abstract) aluminum alloys to a thickness 1-4 mm (column 2 line 37) wherein the set back is > 20 mm (column 2 lines 35-36, column 3 line 25). Jin teaches that a set back of > 20mm helps prevent sticking of the metal to the rollers (column 2 lines 25-37).


It would have been obvious to one of ordinary skill in the art to use a set back of > 20 mm, as taught by Jin, when performing the twin roll casting process as taught by Papich, because Jin teaches that said set back helps prevent sticking of the metal to the rollers (column 2 lines 25-37).


### *Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (703) 308-4757. The examiner can normally be reached on 7:30 am- 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7719 for regular communications and (703) 305-7719 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jcm   
December 11, 2001

  
GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER